

Methodological issues in the study of violence against women

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The objective of this paper is to review the methodological issues that arise when studying violence against women as a public health problem, focusing on intimate partner violence (IPV), since this is the form of violence that has the greatest consequences at a social and political level. The paper focuses first on the problems of defining what is meant by IPV.

Secondly, the paper describes the difficulties in assessing the magnitude of the problem. Obtaining reliable data on this type of violence is a complex task, because of the methodological issues derived from the very nature of the phenomenon, such as the private, intimate context in which this violence often takes place, which means the problem cannot be directly observed. Finally, the paper examines the limitations and bias in research on violence, including the lack of consensus with regard to measuring events that may or may not represent a risk factor for violence against women or the methodological problem related to the type of sampling used in both aetiological and prevalence studies.

reported having suffered physical abuse by their partners at some point in their life.³ This variability in figures may correspond to the actual difference with regard to the size of the problem in different countries, but it may also reflect major methodological differences in approaching the problem.

In Spain, the first law on measures providing comprehensive protection for intimate partner violence (IPV) against women was passed at the end of 2004.⁴ This law, in addition to tightening up legal measures for abusers, and developing specific measures to increase victims' protection, promotes the development of activities, and training and awareness programmes in all the professional fields that are involved in fighting this problem, ranging from the areas of health, law and education to the media.

The objective of this paper is to review the methodological issues that arise when studying violence against women as a public health problem. Although some of the issues examined in this article can be applied to any type of violence against women, we will concentrate on IPV, since this is one of the most common phenomena of violence against women and it has the greatest consequences at a social and political level.

Research on violence against women is considered as an important objective of any programme designed to eradicate this problem. In the Fourth World Conference on Women, held in Beijing in 1995, one of the strategic objectives established was to study the causes and consequences of violence against women and the efficacy of preventive measures, encouraging governments and organisations to promote research in this area.¹

Despite a growing social and political interest in the subject, there are still few research studies on certain aspects related to the efficacy of measures implemented in the field of violence against women. Furthermore, there are no epidemiological surveillance systems that employ homogeneous criteria in order to measure this problem, thus permitting reliable data to be obtained on its prevalence and incidence.

The "Multi-country study on women's health and domestic violence against women" is the first of its type carried out by the World Health Organization (WHO) and shows that the most common type of violence against women is that which is carried out by their partner. This type of violence is far more common than attacks or rapes carried out by strangers or other people that the victims may know.²

In a report issued by the Center for Communications Programs, at Johns Hopkins University, it was shown that 10–69% of women worldwide, and 18–58% of women in Europe,

PROBLEMS DEFINING A CASE

The first problem is the lack of consensus regarding the definition of violence against women.

Some authors defend a broad definition that includes all acts or omissions that endanger women or contribute to subordination.⁵ The definition in the United Nations Declaration on the Elimination of Violence against Women provides a very useful conceptual, defensive framework. Violence against women is defined as "any act of gender-based violence that results in, or is likely to result in, physical, sexual or psychological harm or suffering to women, including threats of such acts, coercion or arbitrary deprivation of liberty, whether occurring in public or in private life."⁶

The advantage of this open definition is that it establishes violence against women in a wider social context and enables the interested parties to take into consideration the majority of violations against women's human rights, classifying them under the heading of gender based violence. The disadvantage is that when very broad definitions are used, the term loses its descriptive power.

However, to facilitate research, surveillance and follow-up, more specific, operational definitions are required. From a research point of view,

Abbreviations: ABI, abusive behaviour inventory; CTS, conflict tactics scales; IPV, intimate partner violence

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attempts have been made to solve this problem by focusing on measuring behaviour and specific acts, and their effects on women's physical, sexual and emotional wellbeing.

In order to ensure comparability between studies, it is important to know exactly what type of violence is being investigated. Thus, studies may focus on gender based violence in its broadest concept; family violence may include any family member as the aggressor or there may be a focus on IPV.

However, for some authors IPV is not a unitary phenomenon. Johnson, for example, identifies three major types of intimate partner violence distinguished from each other by the control context within which they are embedded.⁷ Only one of these (intimate terrorism) is a form of violence equivalent to the one examined here.

Considering that the definitions refer to both subjective perception and objective action, questionnaires often ask whether women have suffered specific acts of violence during a certain period of time. Incidences of violence throughout the woman's life and within the last year should be quantified.

Likewise, further information is necessary on whether or not the aggressor lives with the victim, the duration of violence, frequency and type of abuse to be studied.

The majority of studies examine only physical abuse³ as it is the violence type that is easiest to define and therefore the easiest to measure. However, as the WHO report states, "intimate partner violence refers to any behaviour within an intimate relationship that causes physical, psychological or sexual harm to those in the relationship." Such behaviour includes psychological violence (constant intimidation, insults and humiliation), sexual relations without consent and other forms of sexual coercion, as well as various dominating behaviours (isolating women from family and friends, watching their movements and restricting their access to information or help).⁸

However, sexual violence is the subject of far fewer studies, and psychological violence of even fewer. Humiliation and isolation may not be recognised by the women themselves as a form of violent behaviour that has repercussions for their health.^{9 10}

Another aspect to be taken into consideration is the transcultural applicability of definitions, and this aspect arises in the context of international studies. Anthropologists and women's health defenders point out how difficult it is to draw up international classifications, because the concept of what constitutes violence against women varies greatly from one culture to another.

The "Multi-country study on women's health and domestic violence against women" mentioned earlier, aims to fill this gap by developing methodologies to measure violence against women and its health repercussions in different cultures.²

DIFFICULTIES IN ASSESSING THE MAGNITUDE OF THE PROBLEM

The first step required in order to learn more about violence against women is to assess the magnitude of the problem. However, obtaining reliable data on this type of violence is a complex task, not just because of the problems of defining the term as described above, but also because of the methodological issues derived from the very nature of the phenomenon, such as the private, intimate context in which this violence takes place, which means the problem cannot be directly observed. Taboos, fear and feelings of guilt and shame also account for a high rate of non-responses and of hiding the truth.^{11 12}

For example, in Spain, the majority of the indicators available are taken from secondary sources, such as police records of reported violence and homicides, clinical records, legal registers, etc.¹³

Other indicators related to the epidemiological surveillance of violence against women have also been developed in Spain, such as the epidemic mortality rate from IPV (ratio between deaths in a given month and the median of deaths during the preceding five-year period).¹⁴⁻¹⁶ As can be seen in figure 1, in 2006, IPV attained epidemic figures in Spain (a rate of over 1.25) in January, February and August (rates of 1.50, 1.25 and 1.29 respectively).

However, although this information is of unquestionable relevance, we should remember that it only accounts for reported cases and cases that have the most tragic and tangible consequence: death at the hands of the aggressor. Clearly, a more precise assessment of the magnitude of the problem should include questionnaires among the general population and more specific groups. It is therefore necessary to use direct methods for measuring this problem.

Using direct methods implies asking women about the violence suffered. The information collected in this methodological approach comes from women's direct reports, with all the bias that this implies, because very often interviewees may not identify or acknowledge that a certain experience represents an act of violence or abuse, as they view such a situation as normal. In this respect, some authors recommend asking women about specific acts of violence experienced in their relationship.⁸ This can be applied to different methodologies, ranging from in-depth, open ended interviews, to self administered questionnaires with closed ended questions.

As with all problems, it would be advisable to use questionnaires and measuring tools that have been demonstrated to be reliable and valid in order to be able to correctly identify which women are abused and which are not, in accordance with whether they have experienced specific violent incidents in their relationships. This need has been given particular consideration in the United States, where a large number of tools have been developed since the end of the 1970s to measure, detect and diagnose IPV.¹⁷ We have recently analysed 26 screening instruments and 14 diagnostic instruments.¹⁸

These measuring instruments are not "neutral," and many have been designed using different theoretical frameworks and are therefore based on different definitions of violence. The conflict tactics scales (CTS) is based on conflict theory.¹⁹ With this method, violence, as well as rational discussion and dialogue and verbal aggression, is seen as a method to resolve conflicts within the family. The abusive behaviour inventory (ABI), on the other hand, attempts to reflect the feminist perspective, where physical abuse is conceptualised as the result of the position of power and control that the abuser has over the victim, which is maintained and reinforced via psychological abuse.²⁰ As a result, the choice between one instrument or the other depends on both the data obtained and the reality reflected by those data.

For this reason, we highlight that when reviewing different sets of data, comparisons must be made with great caution.

Another issue that should be taken into account when measuring violence is the possible presence of significant bias in studies that validate scales of diagnosis. Some of these studies include samples of abused women from centres for abused women or intervention programmes for abused women in their validation process. This is true for seven of the diagnostic tools analysed.¹⁸ This might cause significant bias in the selection process because these women may not, in terms of the violence they are undergoing, be representative of the group of women who decide not to seek help.

For the above reason, we can expect questionnaires to be very sensitive to identifying severe cases of the types of violence they are trying to measure, but we do not know how sensitive they

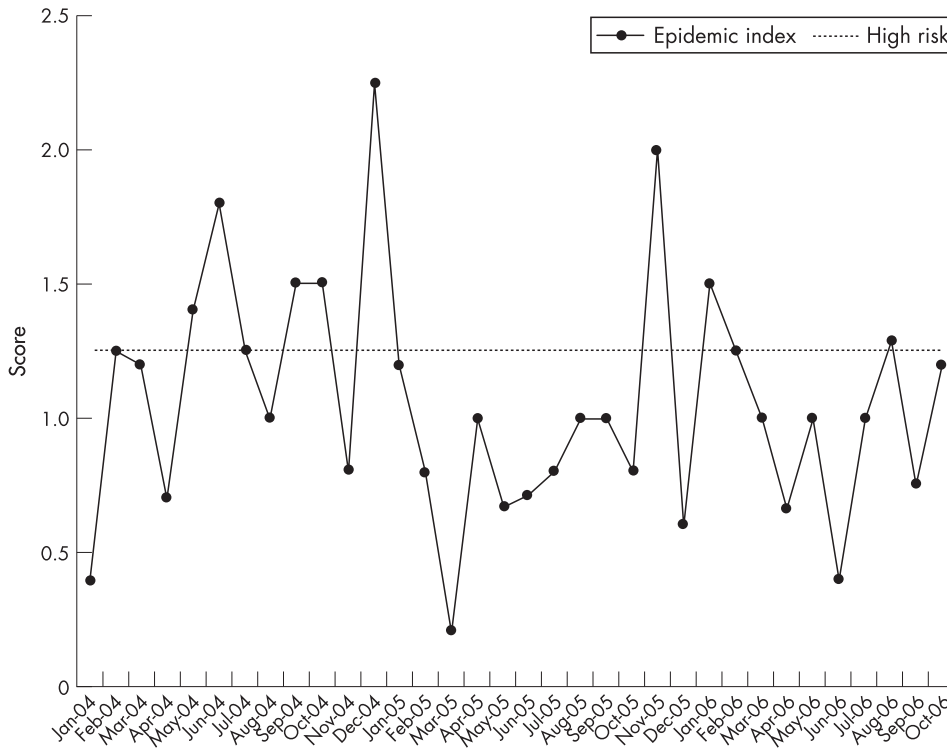


Figure 1 Mortality attributable to intimate partner violence, epidemic index, Spain 2004–6. The epidemic index for intimate partner violence is obtained by dividing the number of murders that occurred in a specific month by the median value of cases that occurred in the same period over the previous five years. A phenomenon is considered to be a high level epidemic when it achieves a score of over 1.25 on the epidemic index; if the result is between 0.75 and 1.24, it is considered a medium level epidemic; and the rating of a low level epidemic is assigned to a score of less than 0.75. (Source: <http://www.e-leusis.net/>.)

Table 1 Technical description of national and international surveys on violence against women

Name of the survey	Country	Year	Type of violence	Sample	Administration
Women's Safety Survey	Australia	1996	Physical/sexual/emotional violence	Random sample of 6300 women of 18 years of age or more	Telephone
Not specified	Denmark	1991	Physical violence	Random sample 1000 women and 1,000 men over 15 years of age	Telephone
Canadian Violence Against Women Survey (VAWS)	Canada	1993	Fear for personal safety. Harassment and sexual abuse. Physical violence. Threats	Random sample: 12 300 women of 18 years of age or more who are married or living with their partner	Telephone
National Violence Against Women Survey (NVAWS)	USA	1996–7	Physical violence/rape/harassment	Random sample: 8000 men and 8000 women of 18 years of age or more	Telephone
National Survey on Violence Against Women	Finland	1997	Physical/sexual/emotional violence	Random sample: women between 18 and 74 years of age	Post
ENVEFF (Enquête nationale sur les violences envers les femmes en France)	France	2000	Psychological/verbal/physical/sexual violence	Random sample: 6970 women between 20 and 59 years of age	One on one interview
Not specified	Italy	2004	Psychological/economic/physical/sexual violence	Random sample: 30 000 between 18 and 70 years of age	Telephone
Not specified	Ireland	1995	Physical/mental/sexual violence	Random sample: 679 women of 18 years of age or more	Post
Not specified	Iceland	1996	Physical violence	Random sample 3000 men and women over 15 years of age	Telephone
Encuesta nacional sobre violencia contra las mujeres (ENVIM)	Mexico	2003	Physical/emotional/sexual/economic violence	Random sample of 26 042 women over 15 years of age who use the health service	One on one interview
Women's Safety Survey	New Zealand	1996	Physical/sexual/emotional violence	Random sample: 500 women of 15 years of age or more	Telephone/one on one interview
National Survey of Wife Abuse	The Netherlands	1986	Physical violence/sexual aggression	Random sample: women between 20 and 60 years of age	One on one interview
Not specified	Portugal	1995	Physical/psychological violence/sociocultural discrimination	Random sample: 1000 women of 18 years of age or more	One on one interview
Violence Against Women Survey	South Africa	1998	Economic/emotional/physical and sexual violence	Non-probabilistic sample: 1000 women	One on one interview
National Survey on Violence Against Women	Sweden	2002	Physical/sexual violence. Threats. Sexual harassment/controlling behaviour	Representative sample: 6926 women between 18 and 64 years of age	Postal
Not specified	Switzerland	1994	Physical/sexual/psychological violence	Representative sample: 1519 between 20 and 60 years of age who have a partner or are recently separated	Telephone
WHO Violence Against Women Instrument	International	1997	Physical/sexual/emotional violence	Women between 15 and 49 years of age	One on one interview
International Violence Against Survey (IVAWS)	International	2002–3	Physical/sexual violence	Women between 18 and 69 years of age	Telephone

Source: http://www.msc.es/organizacion/sns/planCalidadSNS/pdf/equidad/genero_vg_01.pdf

are in detecting less severe forms of these types of IPV. This may lead to an underestimation of the real magnitude of violence in general and of its subtypes, since the questionnaires may not identify as “abused” women who suffer these forms of non-severe abuse.²¹

Surveys carried out among the population are an essential tool for the detection and measurement of violence against women as they can provide data about the prevalence, frequency, patterns and consequences of this violence. Surveys can refer to violence related issues, which are relevant to a more general piece of research, or they can focus specifically on the evaluation of violence against women. Each of these surveys follows a specific methodology and definition of violence, which makes it far more difficult to compare their results.¹⁸ Table 1 provides details of some of the surveys about violence against women which have been carried out at both a national and international level.

In Spain, three large scale surveys regarding violence against women have been carried out among the population, in 1999, 2002 and 2006. The prevalence of women considered to be “technically” abused (those who, although they may not have been aware of it, the research team considered to be in a position inferior to that of their husband or partner) was 12.4%, 11.1% and 9.6%, respectively. However, only 4.2%, 4.0% and 3.6% answered “yes” when they were directly asked whether they had suffered abuse in the past year.²²

The differences in the figures provided may show that a high percentage of violence is accepted by women, or seen by them as something “natural” in their relationship, or that they believe that physical abuse is the only form of violence.²³

LIMITATIONS AND BIAS IN RESEARCH ON VIOLENCE

In addition to the above, the complexity of the phenomenon requires the use of research methodologies that can often imply significant bias or limitations.

The health setting has been identified as one of the best contexts in which IPV can be identified and studied, mainly because of accessibility to this population, and also because it has been demonstrated that women who have suffered violence or abuse make a greater use of health services than those who do not or have not suffered such an experience.^{24–25} For this reason, in recent years a great effort has been made to develop brief scales that can be easily administered by health personnel and women alike.

However, it should be noted that there is no scientific evidence of the benefits of universal screening for violence in the health setting.²⁶ False positive test results, most common in low risk populations, may compromise the clinician-patient relationship. Additional possible harms of screening may include loss of contact with established support systems, psychological distress and an escalation of abuse. However, none of these potential harms has been studied.^{27–28}

Nevertheless, what different international and national expert organisations do recommend is that health professionals (particularly those involved in primary health care, emergency departments, gynaecology and mental health) should always be on the lookout for symptoms of abuse, and should include some questions on abuse in the routine history taking of adult patients.²⁶

However, we should point out that bias may occur if a population sample is recruited in a health setting, because it has been demonstrated that women who have suffered violence or abuse make greater use of health services than those who do not or have not suffered such an experience,²⁹ and this could lead to an overestimation of the prevalence of this problem in the general population.

Another common limitation in research on IPV is derived from the fact that women who are accompanied by their

partner at the time of the interview or questionnaire are systematically excluded from samples. Considering that one of the forms of control that aggressors exercise over their victims is social isolation (often implying that women are not allowed to go out of the house alone) it can be confirmed that a large group of abused women is excluded from studies. However, despite our awareness of the selection bias that this implies, all methodologies used to investigate this subject must put women’s safety first, as recommended in the ethical and safety recommendations for research on domestic violence.³⁰

Until the mid-1980s, the hypotheses and theoretical suggestions to explain the violent behaviour of men towards their partners were not sustained by sufficient empirical evidence. In fact, one empirical study based review on possible risk factors associated with IPV found that the only risk factor demonstrated by literature published in the 1970s and 1980s was related to intergenerational learning of violent partner behaviour.³¹ Although this is the only risk factor of certain consistency, it is upheld by studies in which certain methodological problems have been detected related to the retrospective nature of data collected.³¹ Almost 20 years on, some studies that provide up to date data on this association also observe that retrospective directionality is a limitation that underestimates incidence.^{32–34} Many of these studies also refer to the presence of memory bias.^{35–37}

Identification of elements explaining violent behaviour by men towards women is also part of a body of study that is not exempt from some criticism. One of the major criticisms is associated with a certain tendency to generate more knowledge about the causality of the problem centred on the women who are affected and not so much on their perpetrators.³⁸ Furthermore, there is criticism of approaches to the problem with a limited capacity for dealing with it in all its complexity. For this reason, in parallel to the generation of studies centred on analysis of the possible causal relation between a determined factor and the problem, the so called multidimensional or ecological explanatory models are presented. Among them, owing to its specificity in the problem of partner violence against women and its recognition by experts in the subject, the work that stands out is that of Heise.³⁹ The ecological framework proposed by Heise, one of the most commonly referenced models, explains that a suitable approach to the phenomenon should be focused on the complexity of individual, relational, socioeconomics and political determinants—the hierarchy.

In just under a decade, follow-up studies are now emerging that use appropriate designs for describing the phenomenon of IPV and, furthermore, for identifying predictors of men’s violent behaviour with women, and recurrent cases.⁴⁰ Their main limitation lies in the fact these studies are still few and far between, and are inappropriate for cases of violence that results in death.⁴⁰

Another significant methodological issue in prevalence studies lies in the belief that violence against women is too delicate a subject to be studied through population based studies. In this respect, self administered questionnaires represent a major achievement in research into this problem.⁴¹ Despite this type of questionnaire and the improvements made to current scales that measure the phenomenon, there is still considerable information bias derived from women’s refusal to participate as interviewees.⁴² On the other hand, other studies observe that when direct questions are posed regarding abuse in an ideal setting, the majority of women are forthcoming with their answers. In fact, in Spain, studies conducted in the health area reveal a low non-response rate.^{43–45}

Furthermore, certain problems have been identified derived from the lack of consensus, not with regard to measuring the problem (IPV) but to measuring events that may or may not

What this study adds

The paper focuses first on the problems in defining what is meant by intimate partner violence. Secondly, it describes the difficulties in assessing the magnitude of the problem. Finally, the paper examines the limitations and bias in research on violence, including the lack of consensus with regard to measuring events that may or may not represent a risk factor for violence against women or the methodological problem related to the type of sampling used in both aetiological and prevalence studies.

Policy implications

This article shows the existence of relevant research bias that could be determining our knowledge of the problem and, therefore, limiting the development of efficient interventions to end it.

represent a risk factor. In one systematic literature review that analysed the association between IPV and men's alcohol intake, significant differences between studies were found in terms of the methods used to measure the presence or absence of alcohol and in the definition of alcohol consumption as a risk factor for the development of violent behaviour. This, in turn, limited the possibility of undertaking a meta-analysis.⁴⁶

Finally, another type of methodological problem should be mentioned that is related to the type of sampling used in both aetiological and prevalence studies. This refers specifically to the limitations derived from convenience sampling when there is a certain tendency to use abused women's reports even when the aggressors' characteristics are actually the subject of study.⁴⁷ The responses of women who are victims of violence may be affected by the trauma caused to them by the violent relationship they have with their aggressor. In other words, the practice of asking abused women about their partners' characteristics may result in a classic bias of incorrect classification (memory bias).

CONCLUSION

Research on violence against women is a key component of any programme designed to end the problem. Given the nature of the phenomenon, the standardisation of concepts related to it becomes necessary, in order not only to reach a consensus on what to consider as violence against women, but also to reduce the heterogeneity in the methods to measure the problem and the associated factors. Although in the past two decades the research literature on violence against women has greatly increased, it shows the existence of relevant research bias that could be determining our knowledge of the problem and, therefore, limiting the development of efficient interventions to end it.

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REFERENCES

- 1 **United Nations.** Fourth World Conference on Women. [Accessed 27 December 2006] Available at: <http://www.un.org/womenwatch/daw/beijing/index.html>.
- 2 **World Health Organization.** Multi-country study on women's health and domestic violence against women. [Accessed 30 March 2006] Available at: http://www.who.int/gender/violence/who_multicountry_study/en/index.html.
- 3 **Heise LL, Ellsberg M, Gottemoeller M.** *Ending violence against women. Population Reports (Series L no 11)*. Baltimore: Johns Hopkins University School of Public Health, Population Information Programme, 1999.
- 4 **Spanish Congress.** [Organic Law 1/2004 on 'integrated protection against gender-based violence'] *Boletín General de las Cortes Generales* 2004;121000002:195-232. [In Spanish]
- 5 **Richters J.** *Women, culture and violence: a development, health and human rights issue*. Leiden: The Netherlands Women and Autonomy Centre (VENA), 1994.
- 6 **García-Moreno C.** [*Violence Against Women, Gender and Health Equity*]. Harvard: Pan American Health Organisation and Harvard Center for Population and Development Studies, 2000. [In Spanish]
- 7 **Johnson MP.** Conflict and control—gender symmetry and asymmetry in domestic violence. *Violence against Women* 2006;12:1003-18.
- 8 **Krug E, Dahlberg L, Mercy J, et al.** *World report on violence and health*. Geneva: WHO, 2002.
- 9 **García-Linares MI, Sánchez-Lorente S, Coe CL, et al.** Intimate male partner violence impairs immune control over herpes simplex virus type 1 in physically and psychologically abused women. *Psychosom Med* 2004;66:965-72.
- 10 **Butterworth P.** Lone mother's experience of physical and sexual violence: association with psychiatric disorders. *Br J Psychiatry* 2004;184:21-7.
- 11 **Medina JJ.** [*Intimate partner violence: Comparative research and situation in Spain*]. Valencia: Tirant Monografías, 2002. [In Spanish]
- 12 **Gelles RJ.** Methodological issues in the study of the family violence. In: Strauss MA, Gelles RJ, eds. *Physical violence in American families: risk factors and adaptations to violence in 8145 families*. New Brunswick: Transaction Publishers, 1990.
- 13 **Women's Institute.** [*Violence. Women's statistics*]. [Accessed 22 December 2006] Available at: <http://www.mtas.es/mujer/mujeres/cifras/violencia/index.htm#violencia>[In Spanish]
- 14 **Vives-Cases C.** Intimate partner violence against women in Spain. *J Epidemiol Community Health* 2006;60:652-3.
- 15 **Vives C, Caballero P, Alvarez-Dardet C.** [Temporal analysis of mortality due to intimate partner violence in Spain.] *Gac Sanit* 2004;18:346-50. [In Spanish]
- 16 **Vives-Cases C, Alvarez-Dardet C, Colomer C, et al.** [Health advocacy in violence against women: an experience]. *Gac Sanit* 2005;19:262-4. [In Spanish]
- 17 **Waltermauer E.** Measuring intimate partner violence (IPV): you may only get what you ask for. *J Interpers Violence* 2005;20:501-6.
- 18 **Jiménez Rodrigo ML, Ruiz-Pérez I.** Observatory of women's health. [*Catalogue of instruments for the screening and prevalence of physical, psychological and sexual abuse*]. [Accessed 9 May 2007] Available at: http://www.msc.es/organizacion/sns/planCalidadSNS/pdf/equidad/genero_vg_01.pdf. [In Spanish]
- 19 **Straus MA.** Measuring intrafamily conflict and violence: the conflict tactics (CT) scales. *J Marriage Family* 1979;41:75-88.
- 20 **Shepard MF, Campbell JA.** The abusive behavior inventory: a measure of psychological and physical abuse. *J Interpers Violence* 1992;7:291-305.
- 21 **Hudson WW, McIntosh SR.** The assessment of spouse abuse: two quantifiable dimensions. *Journal of Marriage and the Family* 1981;Nov:873-88.
- 22 **Women's Institute.** [*Violence against women. Results from the Macro-survey*]. [Accessed 9 May 2007]. Available at: http://www.mtas.es/mujer/mujeres/cifras/violencia/macroencuesta_violencia.htm [In Spanish]
- 23 **Ruiz-Pérez I, Blanco-Prieto P, Vives-Cases C.** [Intimate partner violence: social and health determinants and responses.] *Gac Sanit* 2004;18(Suppl 2):4-12. [In Spanish]
- 24 **Ruiz-Pérez I, Plazaola-Castaño J.** Intimate partner violence and mental health consequences in women attending family practice in Spain. *Psychosom Med* 2005;67:791-7.
- 25 **Bradley F, Smith M, Long J, et al.** Reported frequency of domestic violence: cross sectional survey of women attending general practice. *BMJ* 2002;324:271.
- 26 **Ramsay J, Richardson J, Carter YH, et al.** Should health professionals screen women for domestic violence? Systematic review. *BMJ* 2002;325:314.
- 27 **US Preventive Service Task Force.** Screening for family and intimate partner violence: recommendation statement. *Ann Intern Med* 2004;140:382-6.
- 28 **Vives-Cases C, Gil-González D, Carrasco-Portiño M, et al.** [Early screening of intimate partner violence. An evidence-based intervention?] *Med Clin (Barc)* 2006;26:101-4. [In Spanish]
- 29 **Koss MP, Koss PG, Woodruff WJ.** Deleterious effects of criminal victimization on women's health and medical utilization. *Arch Intern Med* 1991;151:342-7.
- 30 **World Health Organization.** *Putting women's safety first; ethical and safety recommendations for research on domestic violence against women*. Geneva: WHO, 1999.
- 31 **Hotaling G, Sugarman D.** An analysis of risk markers in husband to wife violence: the current state of knowledge. *Violence Vict* 1986;1:101-24.
- 32 **Martin SL, Moracco KE, Garro J, et al.** Domestic violence across generations: findings from northern India. *Int J Epidemiol* 2002;31:560-72.
- 33 **Herrenkohl TI, Mason WA, Kosterman R, et al.** Pathways from physical childhood abuse to partner violence in young adulthood. *Violence Vict* 2004;19:123-36.
- 34 **Orcutt HK, King LA, King DW.** Male-perpetrated violence among Vietnam veteran couples: relationships with veteran's early life characteristics, trauma history, and PTSD symptomatology. *J Trauma Stress* 2003;16:381-90.

- 35 **Whitfield CL**, RF, Dube SR, *et al.* The violent childhood and the risk of intimate partner violence in adults. Assessment in a large health maintenance organisation. *J Interpers Violence* 2003;**18**:166–85.
- 36 **Simons RL**, Wu C, Jonson C, *et al.* A test of various perspectives on the intergenerational transmission of domestic violence. *Criminology* 1995;**33**:141–72.
- 37 **Carr JL**, VanDeuse KM. The relationship between family of origin violence and dating violence in college men. *J Interpers Violence* 2002;**17**:630–46.
- 38 **Browne A**. Violence against women by male partners. Prevalence, outcomes and policy implications. *Am J Psychol* 1993;**48**:1077–87.
- 39 **Heise L**. Violence against women. An integrated, ecological framework. *Violence against women* 1998;**4**:262–90.
- 40 **Hilton NZ**, Harris G. Predicting wife assault: a critical review and implications for policy and practice. *Trauma Violence Abuse* 2005;**6**:3–23.
- 41 **Langhinrichsen-Rohling J**. Top 10 greatest “hits”: important findings and future directions for intimate partner violence research. *J Interpers Violence* 2005;**20**:108–18.
- 42 **Waltermauer E**, Ortega C, McNutt L. Issues in estimating the prevalence of intimate partner violence. Assessing the impact of abuse status on participation bias. *J Interpers Violence* 2003;**18**:959–74.
- 43 **Ruiz-Perez I**, Plazaola-Castano J, del Rio-Lozano M, *et al.* How do women in Spain deal with an abusive relationship? *J Epidemiol Community Health* 2006;**60**:706–11.
- 44 **Ruiz-Perez I**, Plazaola-Castano J, Rio-Lozano MD. Physical health consequences of intimate partner violence in Spanish women. *Eur J Public Health* 2007; January 23.
- 45 **Matud Aznar MP**. [The Impact of Domestic Violence on the Health of Abused Women]. *Psicothema* 2004;**16**:397–401. [In Spanish]
- 46 **Gil-González D**, Vives-Cases C, Alvarez-Dardet C, *et al.* Alcohol and intimate partner violence: do we have enough information to act? *Eur J Public Health* 2006;**16**:279–85.
- 47 **Lindquist CU**, Sass LE, Bottomley D, *et al.* Should abused women’s reports of partner substance abuse be accepted as valid? *J Fam Violence* 1997;**12**:75–83.